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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,056	06/22/2005	Kazufumi Sato	SHIGA7.021APC	1274
20995 7590 03/09/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER				
CHU, JOHN S Y				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
03/09/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

# Office Action Summary

**Application No.**

10/540,056

**Applicant(s)**

SATO ET AL.

**Examiner**

JOHN S. CHU

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 1/29/2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This Office action is in response to the IDS filed January 29, 2009.

1. Claims 12-15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

These claims depend from cancelled claims 2-5. Correction is necessary.

#### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 6-9, and 12-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 7,449,276. Although

the conflicting claims are not identical, they are not patentably distinct from each other because the currently recited claims drawn to the following:

1. (**Currently amended**) A positive resist composition comprising:
  - a resin component (A) containing an acid dissociable dissolution inhibiting group whose alkali solubility increases under action of acid; and
  - an acid generator component (B) that generates acid on exposure, whereinthe resin component (A) is a copolymer comprising a first structural unit (a1) derived from a hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester containing an alcoholic hydroxyl group, in which 10 mol% or more and 25 mol% or less of a combined total of hydroxyl groups within the structural units (a1) and alcoholic hydroxyl groups within the structural units (a2) are protected with the acid dissociable dissolution inhibiting groups,
  - a weight average molecular weight of the copolymer prior to protection with the acid dissociable dissolution inhibiting groups is ~~2,000~~ 4,000 or more and ~~8,500~~ 8,000 or less,
  - a molar ratio between the first structural units (a1) and the second structural units (a2) within the resin component (A) prior to protection with the acid dissociable dissolution inhibiting groups is within a range from 80:20 to 70:30,
  - the second structural unit (a2) is derived from a (meth)acrylate ester containing an adamantyl group with an alcoholic hydroxyl group, and
  - the acid dissociable dissolution inhibiting group is a 1-lower alkoxyalkyl group.

if patented would be a second patent to the same and overlapping invention as recited in HOJO et al (20070042288) seen here:

Art Unit: 1795

1. A positive photoresist composition that is used in a method for forming a resist pattern that includes an exposure step using an electron beam, comprising

a resin component (A) that exhibits increased alkali solubility under action of acid, an acid generator component (B) that generates acid on exposure, and an organic solvent (C), wherein

said component (A) comprises a copolymer a first structural unit (a1) derived from hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester having an alcoholic hydroxyl group, and a portion of hydroxyl groups of said structural units (a1) and alcoholic hydroxyl groups of said structural units (a2) are protected with acid dissociable, dissolution inhibiting group, wherein

both the hydroxyl groups of (a1) and the alcoholic hydroxyl groups of (a2) are partially protected by acid dissociable, dissolution inhibiting groups, wherein a weight average molecular weight of said copolymer of said resin component (A), prior to protection with said acid dissociable, dissolution inhibiting groups, is at least 2,000 but no more than 8,500.

1. Claims 1 and 6-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 10/566,425 in view of OONO et al (6,723,483). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed positive resist compositions overlap with respect to the claimed copolymer, and the use of more than one acid generating compound in a photoresist composition, namely a diazomethane and a sulfonium salt is conventional to the art as seen by OONO et al in column 12, lines 36 – column 13, line 40.

It would have been *prima facie* obvious to one of ordinary skill in the art of to use two photoacid generating compounds in place of the single acid generating compound in SN# 10/566,425, to YAMAZAKI et al with the reasonable expectation of same or similar results to prevent the generation of fine particles as disclosed in column 13, lines 38-40 of OONO et al.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

5. Claims 1 ,6-9, and 12-20 are rejected under 35 U.S.C. 102(f) as being clearly anticipated by HOJO et al (7,449,276).

The claimed invention is drawn to the following:

1. **(Currently amended)** A positive resist composition comprising:
  - a resin component (A) containing an acid dissociable dissolution inhibiting group whose alkali solubility increases under action of acid; and
  - an acid generator component (B) that generates acid on exposure, whereinthe resin component (A) is a copolymer comprising a first structural unit (a1) derived from a hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester containing an alcoholic hydroxyl group, in which 10 mol% or more and 25 mol% or less of a combined total of hydroxyl groups within the structural units (a1) and alcoholic hydroxyl groups within the structural units (a2) are protected with the acid dissociable dissolution inhibiting groups,
  - a weight average molecular weight of the copolymer prior to protection with the acid dissociable dissolution inhibiting groups is ~~2,000~~ 4,000 or more and ~~8,500~~ 8,000 or less,
  - a molar ratio between the first structural units (a1) and the second structural units (a2) within the resin component (A) prior to protection with the acid dissociable dissolution inhibiting groups is within a range from 80:20 to 70:30,
  - the second structural unit (a2) is derived from a (meth)acrylate ester containing an adamantyl group with an alcoholic hydroxyl group, and
  - the acid dissociable dissolution inhibiting group is a 1-lower alkoxyalkyl group.

HOJO et al claims essentially the same invention to a positive photoresist composition wherein the composition comprises resin component, an acid generator component and a solvent.

Component (A) comprises a copolymer a first structural unit (a1) derived from hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester having an alcoholic hydroxyl group, and a portion of hydroxyl groups of said structural units (a2) are protected with acid dissociable dissolution inhibiting group wherein the molecular weight of said copolymer resin prior to protection with said dissolution inhibiting group is at least 2,000 but more than 8,500, see claim 1. It is noted that the intended use language in HOJO et al for exposure to an electron beam is not give patentable weight and is essentially the same product as claimed in the current application.

HOJO et al recites in claim 2 that at least 10 mol% but no more than 35 mol % of the combined total hydroxyl groups which overlaps and anticipates the recited 10 mol% or more and 25 mol % or less of a combined total of hydroxyl groups are protected with the dissolution inhibiting groups of current claim 1.

Claim 3 of HOJO et al recites the molar ratio of the structural units (a1) and (a2) to be in a range of 95:5 to 75:25 which overlaps and meets the claimed range from 80:20 to 70:30 in claim 1.

Claims 4, 5, 7 and 8 of HOJO et al meet the claimed structural unit (a2) which is a (meth)acrylate ester containing an adamantyl group with an alcoholic hydroxyl group.

Claim 7 of HOJO et al meets the claimed acid dissociable inhibiting group by disclosing a 1-lower alkoxyalkyl group as recited in claim 1.

The claimed inventions are indistinguishable for the essential features and there is no common inventor in the oath/declaration of the applications Therefore it is unclear who the true

inventors are for the recited positive resist composition as claimed. It is noted that the applications have the same assignee so no interference would be initiated.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John S. Chu/  
Primary Examiner, Art Unit 1795

J.Chu  
February 18, 2009